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Wheat and Oat Variety Performance Tests in Tennessee 2009

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Variety test results are posted on UT's Web site at http://varietytrials.tennessee.edu and www.UTCrops.com

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General Information

Research and Education Center Tests: The 2009 variety performance tests were conducted on 64 soft, red winter wheat varieties in each of the physiographic regions of the state. Tests were conducted at East TN (Knoxville), Plateau (Crossville), Highland Rim (Springfield), Middle TN (Spring Hill), Milan (Milan) and West TN (Jackson) Research and Education Centers.

All varieties were seeded at rates from 26 - 32 seed per square foot (Table 1). Plots were seeded with drills using 7–7.5 inch row spacings. The plot size was six, seven or 10 rows, 25 to 30 feet in length depending on location equipment. Plots were replicated three times at each location. Seed of all varieties were treated with a fungicide.

County Standard Tests: The County Standard Wheat Test was conducted on 20 soft red winter wheat varieties at nine locations across eight counties in West Tennessee (Crockett, Dyer, Franklin, Gibson, Henry, Lake, Moore and Weakley) and one county in western Kentucky (Ballard). Each variety was evaluated in a large strip-plot at each location; thus, each county test was considered as one replication of the test in calculating the overall average yield and in conducting the statistical analysis to determine significant differences. At each location, plots were planted, sprayed, fertilized and harvested with the equipment used by the cooperating producer in their farming operation. The width and length of strip-plots were different in each county; however, within a location in a county, the strips were trimmed on the ends so that the lengths were the same for each variety, or if the lengths were different then the harvested length was measured for each variety and appropriate harvested area adjustments were made to determine the yield per acre.

Insecticide Seed Treatments: In order to evaluate the effects of seed treated with a systemic insecticide, four varieties were evaluated in the Research and Education Center tests in 2009. Croplan 8302, Delta King DK9577, Pioneer 26R22 and USG 3555 were planted at each location with and without the systemic insecticide ‘Cruiser’ seed treatment. All plot seed were treated with a fungicide.

Growing Season: The growing season began with fairly normal conditions during fall planting across much of the state. The winter temperatures were reasonably moderate with some freezing damage to the plants at some locations. According to the Tennessee Agricultural Statistics Service (TASS), the crop tolerated the winter in good condition, with 80 percent of the crop rated good to excellent in the spring. Wet and cool conditions April through June caused disease, which decreased yield and resulted in a harvest slightly later than normal. Tennessee producers planted approximately 430,000 acres of wheat in the fall of 2008. Approximately 340,000 acres were harvested for grain in 2009, which is 180,000 less than the 2008 harvested acreage of 520,000. The 2009 total wheat production forecast is 18.4 million bushels and the predicted state average yield is 54 bu/a.

Interpretation of Data

The tables on the following pages have been prepared with the entries listed in order of performance, the highest-yielding entry being listed first. All yields presented have been adjusted to 13.5% moisture. At the bottom of the tables, **LSD** values stand for **Least Significant Difference**. The mean yields of any two varieties being compared must differ by

at least the LSD amount shown to be considered different in yielding ability at the 5% level of probability of significance. For example, given that the LSD for a test is 8.0 bu/a and the mean yield of Variety A was 50 bu/a and the mean yield of Variety B was 55 bu/a, then the two varieties are not statistically different in yield because the difference of 5 bu/a is less than the minimum of 8 bu/a required for them to be significant. Similarly, if the average yield of Variety C was 63 bu/a then it is significantly higher yielding than both Variety B (63 - 55 = 8 bu/a = LSD of 8) and Variety A (63 - 50 = 13 bu/a > LSD of 8).

Also, the **coefficient of variation (C.V.)** values are shown at the bottom of each table. This value is a measure of the error variability found within each experiment. It is the percentage that the square root of error mean square is of the overall test mean yield at that location. For example, a C.V. of 10% indicates that the size of the error variation is about 10% of the size of the test mean. Similarly, a C.V. of 30% indicates that the size of the error variation is nearly one-third as large as the test mean. A goal in conducting each yield test is to keep the C.V. as low as possible, preferably below 20%.

---------- Wheat ----------

Results

Yield and Agronomic Traits: During 2009, 64 wheat varieties were evaluated in six research and education center (REC) tests, and 20 varieties were evaluated in nine county standard tests (CST). The 20 varieties in the CST were all present in the REC tests (Table 5). Ten companies and five universities entered varieties into the tests this year. The average yield of the 64 varieties in the 2009 REC tests was 61 bu/a (range from 51 to 74 bu/a, Table 2). The varieties ranged in maturity from 221 to 227 days after planting (DAP), with most of the varieties clustering around 224. The test weight values ranged from 49.6 to 56.3 lbs/bu (Table 3). The average yield of the 20 varieties in the county tests was 58.0 bu/a, with individual varieties ranging from 52.3 to 65.6 bu/a. The test weight values ranged from 52.4 to 57.9 lbs/bu (Table 4).

Due to the severe freeze that occurred in early April 2007 and the atypical yields that were obtained, the data from 2007 are not included in the 3-year summaries. Instead, the 2006 data are included for the 3-year summaries. Thirty-three of the 64 varieties have been evaluated over the two-year period (2008 & 2009) and 17 of the 64 have been evaluated for the three-year period (2006, 2008 & 2009).

Cruiser Seed Treatments: The effects of the Cruiser insecticide seed treatments were inconsistent among varieties and REC locations. The range in response of varieties treated with Cruiser was from –12 to +13 bu/a across locations. The overall effect across locations and varieties was an increase of 1 bu per acre, which was not statistically different from the untreated checks. The four varieties were evaluated in six locations. This resulted in 24 comparisons of the treatment. Only three of these comparisons resulted in a statistically significant yield response. Pioneer 26R22 and USG 3555 Cruiser treated varieties yielded 11 and 13 bu/a more than the non-Cruiser treated varieties, respectively, at the West TN REC. Also, the Delta King DK9577 Cruiser treated variety yielded 11 bu/a more than the non-Cruiser treatment at the Milan REC (Table 10). The inconsistent responses are similar to results obtained in past years with systemic insecticide treated wheat seed.

Table 1. Location information from research and education centers where the wheat variety tests were conducted in 2009.

Research and Education Center	Location	Planting Date	Harvest Date	Seeding Rate	Soil Type
Knoxville	Knoxville	10/21/2008	6/15/2009	28/ft^2	Huntington Silt Loam
Plateau	Crossville	10/23/2008	6/25/2009	28/ft^2	Lilly Silt Loam
Highland Rim	Springfield	10/21/2008	6/22/2009	28/ft^2	Dickson Silt Loam
Middle Tennessee	Spring Hill	11/18/2008	6/22/2009	26/ft^2	Maury Silt Loam
West Tennessee	Jackson	10/28/2008	6/22/2009	28/ft^2	Lexington Silt Loam
Milan	Milan	10/30/2008	6/19/2009	32/ft^2	Grenada Silt Loam

Table 2. Mean yields† of 64 soft red winter wheat varieties evaluated at six locations in Tennessee during 2009.

Brand	Variety	Avg. Yield ± Std Err. (n=6)‡	Knoxville 10/21/08 §	Crossville 10/23/08	Springfield 10/21/08	Spring Hill 11/18/08	Jackson 10/28/08	Milan 10/30/08
		---bu/a---						
Dyna-Gro	Shirley	74 ± 2	115	66	64	45	98	53
Croplan Genetics	8302	72 ± 2	97	76	63	43	93	62
Pioneer	26R22	70 ± 2	100	75	56	36	91	63
Pioneer	26R15	69 ± 2	101	73	56	30	98	58
Cache River Valley Seed	Dixie 454	68 ± 2	96	73	64	42	91	45
GA Exp.	GA-991209-6E33	68 ± 2	104	69	58	38	86	53
Pioneer	XW07X	68 ± 2	92	76	50	46	88	54
Pioneer	XW07B	68 ± 2	84	78	57	44	88	55
Dyna-Gro	9922	67 ± 2	97	57	66	35	93	55
Michigan Crop Improvement	Red Ruby	67 ± 2	89	77	56	37	87	54
MO	MO-011126	67 ± 2	93	75	57	40	83	52
VA Exp.	VA04W-90	66 ± 2	96	62	57	39	94	50
Progeny	117	66 ± 2	95	66	55	43	80	56
Cache River Valley Seed	Dixie 940	66 ± 2	104	65	57	36	82	52
USG	3770	65 ± 2	98	68	53	36	80	55
Armor	Renegade	64 ± 2	95	55	63	36	89	50
Warren Seed	McKay 100	64 ± 2	87	62	53	34	93	55
Pioneer	25R63	64 ± 2	111	60	48	35	89	39
Croplan Genetics	554W	63 ± 2	94	63	57	28	91	45
USG	3555	63 ± 2	103	69	54	32	86	34
Dyna-Gro	V9723	63 ± 2	109	57	55	35	71	50
Delta King	DK 9108	63 ± 2	97	55	52	35	82	54
Dyna-Gro	V9710	62 ± 2	97	56	51	34	84	51
GA Exp.	GA-991336-6E9	62 ± 2	82	56	56	33	88	58
Pioneer	25R78	62 ± 2	100	50	49	28	91	54
VA	Merl	62 ± 2	99	58	52	31	79	53
Croplan Genetics	8868	62 ± 2	86	69	48	39	92	38
Progeny	185	61 ± 2	110	42	52	25	82	58
USG	3409	61 ± 2	83	75	48	34	83	44
Progeny	166	61 ± 2	91	42	52	38	88	55
MO	Bess	61 ± 2	92	58	56	33	82	43
Cache River Valley Seed	Dixie 427	61 ± 2	84	62	46	28	83	61
AgriPro Coker	Branson	61 ± 2	112	43	58	26	71	54
Progeny	119	60 ± 2	94	69	54	33	71	41
Delta Grow	1600	60 ± 2	83	54	49	37	88	51
Delta Grow	4500	60 ± 2	79	56	50	35	88	54
GA Exp.	GA-981622-5E35	60 ± 2	95	38	52	36	85	54
USG	3295	60 ± 2	101	55	38	39	84	41

(continued)

Table 2. Mean yields† of 64 soft red winter wheat varieties evaluated at six locations in Tennessee during 2009.

Brand	Variety	Avg. Yield ± Std Err. (n=6)‡	Knoxville 10/21/08 §	Crossville 10/23/08	Springfield 10/21/08	Spring Hill 11/18/08	Jackson 10/28/08	Milan 10/30/08
		---bu/a---						
TN Exp.	TN 802	59 ± 2	83	60	49	31	81	53
MO	Truman	59 ± 2	88	56	62	26	85	37
Progeny	130	59 ± 2	89	57	46	34	71	59
Armor	ARX 840	59 ± 2	84	54	52	26	80	59
Delta King	DK 9577	59 ± 2	80	72	37	38	86	39
Dyna-Gro	V9812	58 ± 2	83	77	40	26	85	40
GA Exp.	GA-991371-6E12	58 ± 2	81	46	57	34	77	54
USG	3860	58 ± 2	87	58	53	32	83	36
Progeny	136	58 ± 2	82	54	53	28	84	48
AgriPro Coker	X3002C	58 ± 2	90	52	52	29	77	48
USG	3665	58 ± 2	78	80	42	31	82	34
Dyna-Gro	Baldwin	57 ± 2	78	52	53	41	74	45
USG	3209	57 ± 2	75	43	53	31	86	55
Armor	Gold	57 ± 2	85	49	48	23	87	49
TN Exp.	TN 801	57 ± 2	57	61	57	35	79	53
Armor	360Z	57 ± 2	78	76	35	33	80	38
AgriPro Coker	Oakes	57 ± 2	94	41	62	29	80	33
TN Exp.	TN 901	56 ± 2	68	59	51	32	78	48
VA	Jamestown	56 ± 2	87	39	51	32	77	51
VA Exp.	VA04W-259	56 ± 2	79	48	50	29	81	49
AgriPro Coker	W1377	56 ± 2	68	48	50	42	81	45
Delta Grow	5200	55 ± 2	71	39	49	36	82	54
VA	Roane	53 ± 2	68	56	45	29	80	43
USG	3592	52 ± 2	63	43	48	35	72	52
Armor	ARX 6202	52 ± 2	53	58	53	35	79	33
AgriPro Coker	Coker 9804	51 ± 2	72	50	43	25	64	51
Average (bu/a)		**61**	**89**	**59**	**52**	**34**	**84**	**50**
L.S.D.$_{.05}$ (bu/a)		**4**	**12**	**14**	**7**	**10**	**11**	**11**
C.V. (%)		**10.6**	**8.1**	**13.9**	**7.9**	**17.3**	**7.7**	**13.3**

† All yields are adjusted to 13.5% moisture.

‡ n = number of environments

§ Planting date

Table 3. Mean yields† and agronomic characteristics of 64 soft red winter wheat varieties evaluated at six locations in Tennessee during 2009.

Brand	Variety	Avg. Yield ± Std Err. (n=6)‡	Moisture (n=6)	Test Weight# (n=1)	Maturity (n=5)	Height (n=6)	Lodging (n=3)	Protein* (n=1)
		bu/a	%	lbs/bu	DAP	in.	Score	%
Dyna-Gro	Shirley	74 ± 2	13.7	52.6	225	33	1.2	11.5
Croplan Genetics	8302	72 ± 2	14.3	52.9	224	35	1.3	12.0
Pioneer	26R22	70 ± 2	14.0	53.9	223	35	1.3	11.7
Pioneer	26R15	69 ± 2	13.7	51.6	224	35	1.2	12.9
Cache River Valley Seed	Dixie 454	68 ± 2	14.6	55.9	226	36	1.4	12.9
GA Exp.	GA-991209-6E33	68 ± 2	14.0	55.3	225	35	1.5	12.1
Pioneer	XW07X	68 ± 2	14.0	54.1	224	34	1.8	12.1
Pioneer	XW07B	68 ± 2	13.9	53.7	224	34	1.7	11.7
Dyna-Gro	9922	67 ± 2	14.2	52.1	225	34	1.1	11.2
Michigan Crop Improvement	Red Ruby	67 ± 2	13.6	50.6	224	35	1.3	12.5
MO	MO-011126	67 ± 2	13.8	54.4	224	36	1.4	12.6
VA Exp.	VA04W-90	66 ± 2	14.0	55.3	222	34	1.2	12.5
Progeny	117	66 ± 2	14.4	53.9	223	36	1.4	11.9
Cache River Valley Seed	Dixie 940	66 ± 2	13.7	52.7	224	37	1.1	11.3
USG	3770	65 ± 2	14.1	54.3	224	36	1.9	11.6
Armor	Renegade	64 ± 2	13.9	54.0	225	34	1.0	10.8
Warren Seed	McKay 100	64 ± 2	13.7	50.3	224	36	1.2	11.5
Pioneer	25R63	64 ± 2	13.5	54.0	225	34	1.3	11.0
Croplan Genetics	554W	63 ± 2	13.7	53.3	224	34	1.1	12.0
USG	3555	63 ± 2	14.0	54.2	224	32	1.2	12.5
Dyna-Gro	V9723	63 ± 2	13.9	53.6	223	37	1.4	11.8
Delta King	DK 9108	63 ± 2	13.5	54.0	224	37	1.2	12.5
Dyna-Gro	V9710	62 ± 2	13.8	54.0	222	32	1.0	13.5
GA Exp.	GA-991336-6E9	62 ± 2	14.6	54.8	225	35	1.8	13.2
Pioneer	25R78	62 ± 2	13.8	53.8	222	33	1.2	11.6
VA	Merl	62 ± 2	13.9	55.5	224	33	1.1	11.9
Croplan Genetics	8868	62 ± 2	13.7	52.7	223	35	1.2	12.6
Progeny	185	61 ± 2	13.9	53.1	225	34	1.4	11.5
USG	3409	61 ± 2	13.7	52.8	223	35	1.3	12.7
Progeny	166	61 ± 2	14.4	52.6	225	37	1.2	11.3
MO	Bess	61 ± 2	14.1	54.0	224	36	1.6	12.5
Cache River Valley Seed	Dixie 427	61 ± 2	13.8	50.2	223	34	2.0	12.1
AgriPro Coker	Branson	61 ± 2	14.6	53.8	224	34	1.2	11.2
Progeny	119	60 ± 2	13.9	54.4	223	36	1.1	12.2
Delta Grow	1600	60 ± 2	13.8	50.4	224	37	1.0	11.3
Delta Grow	4500	60 ± 2	14.0	50.2	223	38	1.3	11.8
GA Exp.	GA-981622-5E35	60 ± 2	15.1	55.3	226	37	1.4	12.5
USG	3295	60 ± 2	14.6	55.9	224	33	1.1	12.9

(continued)

Table 3. Mean yields† and agronomic characteristics of 64 soft red winter wheat varieties evaluated at six locations in Tennessee during 2009.

Brand	Variety	Avg. Yield ± Std Err. (n=6)‡	Moisture (n=6)	Test Weight# (n=1)	Maturity (n=5)	Height (n=6)	Lodging (n=3)	Protein* (n=1)
		bu/a	%	lbs/bu	DAP	in.	Score	%
TN Exp.	TN 802	59 ± 2	13.9	54.2	223	37	1.9	12.4
MO	Truman	59 ± 2	14.8	52.5	227	38	1.4	12.1
Progeny	130	59 ± 2	14.8	56.1	222	35	1.9	12.1
Armor	ARX 840	59 ± 2	13.5	51.0	223	36	1.7	11.6
Delta King	DK 9577	59 ± 2	13.5	52.6	223	35	1.3	12.4
Dyna-Gro	V9812	58 ± 2	13.5	51.6	223	34	1.2	13.0
GA Exp.	GA-991371-6E12	58 ± 2	14.9	54.7	226	35	2.0	13.3
USG	3860	58 ± 2	13.8	52.5	225	34	1.4	12.8
Progeny	136	58 ± 2	13.7	51.8	223	35	1.5	11.3
AgriPro Coker	X3002C	58 ± 2	14.0	52.4	224	33	1.9	12.1
USG	3665	58 ± 2	13.3	52.1	224	36	1.5	13.0
Dyna-Gro	Baldwin	57 ± 2	15.2	53.6	227	38	1.6	12.3
USG	3209	57 ± 2	14.2	51.3	223	33	1.9	11.8
Armor	Gold	57 ± 2	13.5	52.8	223	34	1.6	12.5
TN Exp.	TN 801	57 ± 2	14.2	53.7	224	39	2.3	11.6
Armor	360Z	57 ± 2	13.8	52.3	223	35	1.2	13.1
AgriPro Coker	Oakes	57 ± 2	15.4	55.4	224	33	1.4	12.1
TN Exp.	TN 901	56 ± 2	13.4	50.4	224	36	2.1	12.0
VA	Jamestown	56 ± 2	13.8	56.3	223	31	1.2	12.4
VA Exp.	VA04W-259	56 ± 2	13.6	54.3	224	30	1.5	13.6
AgriPro Coker	W1377	56 ± 2	14.9	54.8	224	36	1.8	12.7
Delta Grow	5200	55 ± 2	13.7	49.6	223	36	1.0	11.5
VA	Roane	53 ± 2	14.6	55.9	225	32	1.3	12.8
USG	3592	52 ± 2	14.4	53.8	224	37	2.0	12.0
Armor	ARX 6202	52 ± 2	14.7	55.7	225	35	1.4	13.7
AgriPro Coker	Coker 9804	51 ± 2	13.9	51.3	221	33	1.8	11.7
	Average	**62**	**14.0**	**53.3**	**224**	**35**	**1.4**	**12.2**

† All yields are adjusted to 13.5% moisture.

‡ n = number of environments

Official test weight of No. 2 wheat = 58 lbs/bu.

* Protein on dry weight basis.

Maturity (DAP) = Days after planting

Lodging = 1 to 5 scale; where 1 = 95% of plants erect; 2.5 = ~50% of plants leaning at angle ≥ 45°; 5 = 95+% of plants leaning at an angle ≥ 45°.

Table 4. Yields† of 20 soft red winter wheat varieties evaluated in nine County Standard Tests in Tennessee and Kentucky during 2009.

MS	Brand/Variety	Avg. Yield	Moisture	Test Weight‡	KY Ballard	Crockett	Dyer	Franklin	Gibson	Henry	Lake	Moore	Weakley
		bu/a	%	lbs/bu	*10/10§*	*10/21*	*10/31*	*11/19*	*10/21*	*10/12*	*10/29*	*10/27*	*10/21*
A	Progeny 117	65.6	12.0	57.9	73.6	93.0	75.8	20.3	76.4	50.1	77.5	59.3	64.8
A	**AgriPro Coker Branson	65.5	11.2	55.6	79.5	64.6	83.5	36.4	73.7	53.3	83.8	57.3	57.7
A	*Dyna-Gro V9710	65.1	11.9	57.5	78.9	60.3	80.9	30.8	79.0	51.5	81.7	62.2	61.0
AB	Progeny 185	63.1	11.8	56.1	73.2	73.3	78.7	30.2	72.4	49.4	78.7	55.3	56.6
ABC	Warren Seed McKay 100	60.1	11.5	55.0	76.9	59.3	76.5	26.9	73.0	44.6	77.3	47.7	58.7
ABC	****Croplan Genetics 8302	59.8	12.2	56.4	65.9	83.7	73.1	19.1	71.3	59.2	66.9	50.4	48.2
ABCD	***Pioneer 26R15	59.5	11.6	55.9	68.4	69.9	76.1	22.6	75.9	50.6	69.5	51.1	51.6
ABCD	Cache River Valley Seed Dixie 454	59.3	12.3	57.6	69.4	86.4	62.8	32.6	61.3	45.2	71.5	58.1	46.1
BCDE	Delta King DK 9108	58.0	11.8	55.8	63.4	75.3	73.1	29.1	66.1	48.1	65.3	52.2	49.2
BCDE	Cache River Valley Seed Dixie 940	57.8	11.4	53.6	57.0	78.6	68.2	34.6	68.6	35.8	68.1	54.5	54.6
BCDE	Pioneer 26R22	57.1	11.4	54.4	48.8	52.8	81.1	25.6	75.1	62.3	78.3	40.0	50.1
BCDE	USG 3555	56.8	12.3	56.6	54.6	60.3	84.0	22.0	64.9	53.7	70.5	50.0	51.3
BCDE	Croplan Genetics 554	56.1	11.4	52.4	65.1	79.6	62.5	28.5	59.6	44.5	68.4	49.4	47.4
CDE	AgriPro Coker W1377	56.0	12.1	56.0	71.9	72.6	60.6	35.1	58.7	43.4	68.9	50.5	42.4
CDE	USG 3295	54.2	12.0	56.0	45.3	62.9	72.1	41.0	62.3	52.8	63.4	41.5	46.3
CDE	Armor Gold	54.2	11.6	56.1	55.2	78.8	62.9	25.5	61.5	44.2	74.6	36.3	48.7
CDE	Croplan Genetics 8868	53.9	11.3	54.4	56.5	76.8	64.9	42.9	54.1	43.8	59.2	43.9	43.3
CDE	Delta King DK 9577	53.8	11.4	54.0	49.6	82.1	69.0	36.5	63.1	44.8	54.6	44.4	39.7
DE	Dyna-Gro V9812	52.6	11.6	53.6	51.2	83.4	59.2	36.9	57.7	44.6	51.2	45.1	44.0
E	Armor 360Z	52.3	11.5	53.3	57.1	66.7	66.9	36.8	60.1	47.1	54.5	41.2	40.0
	Average	**58.0**	**11.7**	**55.4**	**63.1**	**73.0**	**71.6**	**30.7**	**66.7**	**48.4**	**69.2**	**49.5**	**50.1**

† Yields have been adjusted to 13.5% moisture. Each variety was evaluated in a large strip-plot at each location, thus each county test was considered as one replication of the test in calculating the average yield and in conducting the statistical analysis to determine significant differences (MS).

‡ Official test weight of No. 2 wheat = 58 lbs/bu. - average of 8 locations

MS = Varieties that have any MS letter in common are not statistically different in yield at the 5% level of probability.

Varieties denoted with an asterisk (*), (**), (***), or (****) were in the top performing group in 2008, 2007, 2006 and/or 2005, respectively.. (Yields from freeze damaged 2007 crop not used to qualify for asterisk)

Data provided by Robert C. Williams, Ext. Area Specialist, Grain Crops, and extension agents in counties shown above.

§ Planting date

Table 5. Yields† , moistures, and test weights of 20 soft red winter wheat varieties that were in common to both the County Standard (CST) Tests (n=9) and the Research and Education Center (REC) Tests (n=6) in Tennessee during 2009.

		Averages of CST & REC Tests			County Standard Tests			R E C Tests		
Brand	Variety	Avg. Yield	Moisture	Test Weight‡	Avg. Yield	Moisture	Test Weight	Avg. Yield	Moisture	Test Weight
					bu/a	%	lbs/bu	bu/a	%	lbs/bu
Croplan Genetics	8302	66	13.2	54.7	60	12.2	56.4	72	14.3	52.9
Progeny	117	66	13.2	55.9	66	12.0	57.9	66	14.4	53.9
Pioneer	26R15	64	12.6	53.7	60	11.6	55.9	69	13.7	51.6
Cache River Valley Seed	Dixie 454	64	13.4	56.8	59	12.3	57.6	68	14.6	55.9
Dyna-Gro	V9710	64	12.9	55.7	65	11.9	57.5	62	13.8	54.0
Pioneer	26R22	64	12.7	54.1	57	11.4	54.4	70	14.0	53.9
AgriPro Coker	Branson	63	12.9	54.7	66	11.2	55.6	61	14.6	53.8
Warren Seed	McKay 100	62	12.6	52.7	60	11.5	55.0	64	13.7	50.3
Progeny	185	62	12.8	54.6	63	11.8	56.1	61	13.9	53.1
Cache River Valley Seed	Dixie 940	62	12.5	53.2	58	11.4	53.6	66	13.7	52.7
Delta King	DK 9108	60	12.6	54.9	58	11.8	55.8	63	13.5	54.0
USG	3555	60	13.2	55.4	57	12.3	56.6	63	14.0	54.2
Croplan Genetics	554W	60	12.5	52.8	56	11.4	52.4	63	13.7	53.3
Croplan Genetics	8868	58	12.5	53.5	54	11.3	54.4	62	13.7	52.7
USG	3295	57	13.3	55.9	54	12.0	56.0	60	14.6	55.9
Delta King	DK 9577	56	12.4	53.3	54	11.4	54.0	59	13.5	52.6
AgriPro Coker	W1377	56	13.5	55.4	56	12.1	56.0	56	14.9	54.8
Armor	Gold	56	12.5	54.4	54	11.6	56.1	57	13.5	52.8
Dyna-Gro	V9812	55	12.6	52.6	53	11.6	53.6	58	13.5	51.6
Armor	360Z	55	12.6	52.8	52	11.5	53.3	57	13.8	52.3
Average		**60**	**12.8**	**54.4**	**58**	**11.7**	**55.4**	**63**	**14.0**	**53.3**

† All yields are adjusted to 13.5% moisture.

‡ Official test weight of No. 2 wheat = 58 lbs/bu.

Table 6. Mean yields† of 33 soft red winter wheat varieties evaluated at six locations (n=12) in Tennessee for two years, 2008 and 2009.

Brand	Variety	Avg. Yield ± Std Err. (n=12)‡	Knoxville	Crossville	Springfield	Spring Hill	Jackson	Milan
					bu/a			
Dyna-Gro	Shirley	71 ± 1	86	78	56	50	85	71
Croplan Genetics	8302	69 ± 1	82	73	52	55	83	70
Michigan Crop Improvement	Red Ruby	68 ± 1	82	80	50	46	80	69
Pioneer	26R15	67 ± 1	86	73	46	44	87	69
Pioneer	26R22	67 ± 1	84	68	46	45	88	74
USG	3555	67 ± 1	85	76	48	53	81	60
MO	MO-011126	66 ± 1	81	73	47	47	79	70
Cache River Valley Seed	Dixie 454	66 ± 1	71	76	54	52	80	63
Progeny	117	64 ± 1	71	68	45	55	74	71
Croplan Genetics	8868	63 ± 1	73	70	40	55	80	62
USG	3295	63 ± 1	82	66	37	50	83	63
Delta King	DK 9577	63 ± 1	71	72	38	55	80	60
VA	Jamestown	63 ± 1	74	59	46	52	74	70
TN Exp.	TN 802	63 ± 1	65	68	42	52	79	69
Cache River Valley Seed	Dixie 427	62 ± 1	68	67	40	47	79	74
USG	3665	62 ± 1	66	79	42	46	78	63
Dyna-Gro	V9812	62 ± 1	70	78	33	51	80	61
Delta Grow	1600	62 ± 1	70	65	44	47	79	66
Croplan Genetics	554W	61 ± 1	69	73	44	42	82	58
Warren Seed	McKay 100	61 ± 1	65	64	41	47	82	66
AgriPro Coker	Branson	61 ± 1	83	55	45	46	65	72
Progeny	185	61 ± 1	79	57	44	42	74	69
Dyna-Gro	V9710	60 ± 1	74	64	39	45	75	63
Delta King	DK 9108	60 ± 1	69	65	45	42	76	63
USG	3209	60 ± 1	66	60	48	45	74	67
USG	3860	60 ± 1	71	64	46	41	78	58
MO	Bess	60 ± 1	68	65	43	43	77	61
Progeny	166	59 ± 1	69	57	41	46	75	67
TN Exp.	TN 801	59 ± 1	52	71	48	43	73	64
VA	Roane	58 ± 1	69	69	43	38	71	61
AgriPro Coker	W1377	58 ± 1	61	57	45	49	74	65
MO	Truman	57 ± 1	66	64	50	36	71	53
Delta Grow	5200	56 ± 1	60	49	42	41	77	65
Average (bu/a)		**62**	**72**	**67**	**45**	**47**	**78**	**65**
L.S.D.$_{.05}$ (bu/a)		**4**	**11**	**11**	**9**	**11**	**9**	**10**
C.V. (%)		**11.2**	**10.5**	**10.9**	**13.7**	**16.5**	**7.8**	**10.7**

† All yields are adjusted to 13.5% moisture.

‡ n = number of environments

Table 7. Mean yields† and agronomic characteristics of 33 soft red winter wheat varieties evaluated at six locations (n=12) in Tennessee for two years, 2008 and 2009.

Brand	Variety	Avg. Yield ± Std Err. (n=12)‡	Moisture (n=12)	Test Weight§ (n=3)	Maturity (n=8)	Height (n=12)	Lodging (n=5)	Take All Disease (n=1)	Protein (n=1)
		bu/a	%	lbs/bu	DAP	in.	Score	Score	%
Dyna-Gro	Shirley	71 ± 1	13.6	53.6	227	32	1.1	1.5	11.5
Croplan Genetics	8302	69 ± 1	13.9	55.5	227	35	1.2	1.2	12.0
Michigan Crop Improvement	Red Ruby	68 ± 1	13.4	54.4	227	35	1.2	1.2	12.5
Pioneer	26R15	67 ± 1	13.5	54.2	227	34	1.1	1.0	12.9
Pioneer	26R22	67 ± 1	13.8	55.1	226	35	1.4	1.0	11.7
USG	3555	67 ± 1	14.0	55.7	226	31	1.3	1.3	12.5
MO	MO-011126	66 ± 1	13.7	56.1	226	36	1.3	1.5	12.6
Cache River Valley Seed	Dixie 454	66 ± 1	14.1	56.7	228	35	1.3	2.2	12.9
Progeny	117	64 ± 1	14.1	55.3	225	35	1.3	1.5	11.9
Croplan Genetics	8868	63 ± 1	13.5	55.4	225	34	1.1	1.8	12.6
USG	3295	63 ± 1	14.2	56.8	227	32	1.0	1.5	12.9
Delta King	DK 9577	63 ± 1	13.6	54.9	225	34	1.3	1.3	12.4
VA	Jamestown	63 ± 1	13.9	57.4	226	31	1.2	1.0	12.4
TN Exp.	TN 802	63 ± 1	13.9	55.3	226	37	1.8	1.2	12.4
Cache River Valley Seed	Dixie 427	62 ± 1	13.9	52.9	225	34	1.7	1.3	12.1
USG	3665	62 ± 1	13.4	54.8	226	35	1.3	1.5	13.0
Dyna-Gro	V9812	62 ± 1	13.4	54.3	226	34	1.2	1.7	13.0
Delta Grow	1600	62 ± 1	13.7	53.9	226	35	1.0	1.5	11.3
Croplan Genetics	554W	61 ± 1	13.5	54.6	227	33	1.1	2.3	12.0
Warren Seed	McKay 100	61 ± 1	13.7	53.6	226	36	1.2	2.2	11.5
AgriPro Coker	Branson	61 ± 1	14.2	54.4	226	33	1.3	2.2	11.2
Progeny	185	61 ± 1	13.8	55.0	227	33	1.3	1.5	11.5
Dyna-Gro	V9710	60 ± 1	13.7	54.7	224	31	1.1	2.5	13.5
Delta King	DK 9108	60 ± 1	13.4	54.8	226	36	1.3	3.0	12.5
USG	3209	60 ± 1	14.3	53.7	225	32	1.8	2.8	11.8
USG	3860	60 ± 1	13.6	54.1	227	33	1.2	1.3	12.8
MO	Bess	60 ± 1	13.9	54.9	226	35	1.3	2.2	12.5
Progeny	166	59 ± 1	14.2	54.3	226	37	1.2	1.7	11.3
TN Exp.	TN 801	59 ± 1	13.7	54.4	227	39	1.8	1.2	11.6
VA	Roane	58 ± 1	14.3	57.6	226	32	1.2	1.0	12.8
AgriPro Coker	W1377	58 ± 1	14.6	56.9	226	35	1.5	1.2	12.7
MO	Truman	57 ± 1	14.3	54.5	228	37	1.3	2.0	12.1
Delta Grow	5200	56 ± 1	13.9	53.7	226	36	1.1	1.5	11.5
	Average	**62**	**13.8**	**55.0**	**226**	**34**	**1.3**	**1.6**	**12.2**

† All yields are adjusted to 13.5% moisture. ‡ n = number of environments § Official test weight of No. 2 wheat = 58 lbs/bu. * Protein on a dry weight basis.

Lodging = 1 to 5 scale; where 1 = 95% of plants erect; 2.5 = ~50% of plants leaning at angle ≥ 45°; 5 = 95+% of plants leaning at an angle ≥ 45°.

Take All Disease - 1 to 5 scale; where 1 = 95% of plants non-infected; 2.5 = ~50% of plants infected; 5 = 95+% of plants infected.

Take All Disease ratings taken at the East Tennessee Research & Education Center, Knoxville, TN in 2008. Maturity (DAP) = Days after planting

Table 8. Mean yields† of 17 soft red winter wheat varieties evaluated at four locations (n=12) in Tennessee for three years, 2006, 2008 and 2009. (Due to freeze damage, 2007 data were not used)

Brand	Variety	Avg. Yield ± Std Err. (n=12)‡	Knoxville	Spring Hill	Jackson	Milan
		----------	----------bu/a----------			
Pioneer	26R22	76 ± 1	85	51	94	74
Croplan Genetics	8302	75 ± 1	79	58	92	69
Pioneer	26R15	73 ± 1	84	49	91	68
AgriPro Coker	Branson	71 ± 1	82	52	77	71
Delta King	DK 9577	70 ± 1	75	58	85	62
USG	3295	69 ± 1	78	54	85	61
Progeny	185	69 ± 1	78	49	80	70
Delta Grow	1600	68 ± 1	75	52	84	63
USG	3665	68 ± 1	72	52	85	63
USG	3209	67 ± 1	67	50	84	69
Croplan Genetics	554W	67 ± 1	72	47	88	62
Progeny	166	67 ± 1	72	50	78	66
MO	Bess	66 ± 1	69	49	83	61
Delta King	DK 9108	65 ± 1	70	50	80	62
Delta Grow	5200	64 ± 1	64	46	81	66
VA	Roane	63 ± 1	70	43	79	59
MO	Truman	61 ± 1	65	43	79	56
Average (bu/a)		**68**	**74**	**50**	**84**	**65**
L.S.D.$_{.05}$ (bu/a)		**5**	**11**	**11**	**10**	**8**
C.V. (%)		**10.1**	**10.3**	**14.4**	**8.1**	**9.0**

† All yields are adjusted to 13.5% moisture.

‡ n = number of environments

Table 9. Mean yields† and agronomic characteristics of 17 soft red winter wheat varieties evaluated at four locations (n=12) for three years, 2006, 2008 and 2009. (Due to freeze damage, 2007 data were not used)

Brand	Variety	Avg. Yield ± Std Err. (n=12)‡	Moisture (n=14)	Test Weight§ (n=6)	Maturity (n=8)	Height (n=12)	Lodging (n=5)	Take All Disease (n=1)	Protein* (n=1)
		bu/a	%	lbs/bu	DAP	in.	Score	Score	%
Pioneer	26R22	76 ± 1	13.2	55.8	223	35	1.3	1.0	11.7
Croplan Genetics	8302	75 ± 1	13.3	56.4	224	35	1.2	1.2	12.0
Pioneer	26R15	73 ± 1	12.8	55.2	223	34	1.1	1.0	12.9
AgriPro Coker	Branson	71 ± 1	13.5	55.4	223	33	1.2	2.2	11.2
Delta King	DK 9577	70 ± 1	12.9	56.3	222	34	1.3	1.3	12.4
USG	3295	69 ± 1	13.2	57.2	223	32	1.0	1.5	12.9
Progeny	185	69 ± 1	13.2	55.3	225	33	1.2	1.5	11.5
Delta Grow	1600	68 ± 1	12.9	55.6	223	35	1.0	1.5	11.3
USG	3665	68 ± 1	12.7	56.0	223	35	1.3	1.5	13.0
USG	3209	67 ± 1	13.5	54.5	222	32	1.7	2.8	11.8
Croplan Genetics	554W	67 ± 1	12.7	55.3	223	33	1.1	2.3	12.0
Progeny	166	67 ± 1	13.5	55.5	223	37	1.1	1.7	11.3
MO	Bess	66 ± 1	13.2	55.6	223	36	1.3	2.2	12.5
Delta King	DK 9108	65 ± 1	12.8	55.5	223	37	1.3	3.0	12.5
Delta Grow	5200	64 ± 1	13.2	55.1	224	37	1.1	1.5	11.5
VA	Roane	63 ± 1	13.6	57.6	224	32	1.2	1.0	12.8
MO	Truman	61 ± 1	14.5	55.2	226	38	1.3	2.0	12.1
	Average	**68**	**13.2**	**55.7**	**223**	**35**	**1.2**	**1.7**	**12.1**

† All yields are adjusted to 13.5% moisture.

‡ n = number of environments

§ Official test weight of No. 2 wheat = 58 lbs/bu.

Maturity (DAP) = Days after planting

Lodging = 1 to 5 scale; where 1 = 95% of plants erect; 2.5 = ~50% of plants leaning at angle ≥ 45°; 5 = 95+% of plants leaning at an angle ≥ 45°.

* Protein on a dry weight basis.

Take All Disease - 1 to 5 scale; where 1 = 95% of plants non-infected;

2.5 = ~50% of plants infected; 5 = 95+% of plants infected.

Take All Disease ratings taken at the East Tennessee Research & Education Center, Knoxville, TN in 2008.

Table 10. Yield† comparisons of four soft red winter wheat varieties between seed treated versus untreated with a systemic insecticide evaluated at six locations in Tennessee during 2009. ‡

Brand	Variety	Avg. Yield ± Std Err. (n=6)‡	Knoxville 10/21/08 §	Crossville 10/23/08	Springfield 10/21/08	Spring Hill 11/18/08	Jackson 10/28/08	Milan 10/30/08	Avg. Yield Difference
		bu/a							
Croplan Genetics	8302 (Cruiser)	73 ± 2	93	79	62	38	103	65	+1
Croplan Genetics	8302	72 ± 2	97	76	63	43	93	62	
Pioneer	26R22 (Cruiser)	72 ± 2	107	68	53	38	102	66	+2
Pioneer	26R22	70 ± 2	100	75	56	36	91	63	
USG	3555 (Cruiser)	61 ± 2	95	62	51	32	99	26	-2
USG	3555	63 ± 2	103	69	54	32	86	34	
Delta King	DK 9577 (Cruiser)	60 ± 2	86	68	42	26	88	50	+1
Delta King	DK 9577	59 ± 2	80	72	37	38	86	39	
Average -- Treated Seed (bu/a)		**67**	**95**	**69**	**52**	**34**	**98**	**52**	**+1**
Average -- Untreated Seed (bu/a)		**66**	**95**	**73**	**53**	**37**	**89**	**49**	
L.S.D.$_{.05}$ (bu/a)		**4**	**12**	**14**	**7**	**10**	**11**	**11**	
C.V. (%)		**10.6**	**8.1**	**13.9**	**7.9**	**17.3**	**7.7**	**13.3**	

† All yields are adjusted to 13.5% moisture.

‡ All varieties were treated with fungicide.

§ Planting date

Table 11. Comparisons of overall mean yield† and agronomic characteristics of four soft red winter wheat varieties between seed treated versus untreated with a systemic insecticide evaluated at six locations in Tennessee during 2009. ‡

Brand	Variety	Avg. Yield ± Std Err. (n=6)	Moisture (n=6)	Test Weight§ (n=1)	Maturity (n=5)	Height (n=6)	Lodging (n=3)	Protein* (n=1)
		bu/a	%	lbs/bu	DAP	in.	Score	%
Croplan Genetics	8302 (Cruiser)	73 ± 2	14.1	53.5	224	36	1.6	12.2
Croplan Genetics	8302	72 ± 2	14.3	52.9	224	35	1.3	12.0
Pioneer	26R22 (Cruiser)	72 ± 2	13.9	53.5	224	35	1.3	11.4
Pioneer	26R22	70 ± 2	14.0	53.9	223	35	1.3	11.7
USG	3555 (Cruiser)	61 ± 2	13.9	53.8	225	31	1.2	12.6
USG	3555	63 ± 2	14.0	54.2	224	32	1.2	12.5
Delta King	DK 9577 (Cruiser)	60 ± 2	13.6	53.5	223	36	1.2	12.2
Delta King	DK 9577	59 ± 2	13.5	52.6	223	35	1.3	12.4

† All yields are adjusted to 13.5% moisture.

‡ All varieties were treated with fungicide.

§ Official test weight of No. 2 wheat = 58 lbs/bu.

Maturity (DAP) = Days after planting

Lodging = 1 to 5 scale; where 1 = 95% of plants erect; 2.5 = ~50% of plants leaning at angle ≥ 45°; 5 = 95+% of plants leaning at an angle ≥ 45°.

* Protein on a dry weight basis.

Table 12. Yield† comparisons of three soft red winter wheat varieties between seed treated versus untreated with a systemic insecticide evaluated at six locations in Tennessee for two years, 2008 and 2009. ‡

Brand	Variety	Avg. Yield ± Std Err. (n=12)‡	Knoxville	Crossville	Springfield	Spring Hill	Jackson	Milan	Avg. Yield Difference
		----------bu/a----------							
Croplan Genetics	8302 (Cruiser)	71 ± 1	77	77	50	55	92	77	+2
Croplan Genetics	8302	69 ± 1	82	73	52	55	83	70	
Pioneer	26R22 (Cruiser)	71 ± 1	91	64	47	52	91	81	+4
Pioneer	26R22	67 ± 1	84	68	46	45	88	74	
Delta King	DK 9577 (Cruiser)	65 ± 1	77	72	42	50	81	67	+2
Delta King	DK 9577	63 ± 1	71	72	38	55	80	60	
Average -- Treated Seed (bu/a)		69	82	71	46	52	88	75	**+3**
Average -- Untreated Seed (bu/a)		66	79	71	45	52	84	68	
L.S.D.$_{.05}$ (bu/a)		**4**	**11**	**11**	**9**	**11**	**9**	**10**	
C.V. (%)		**11.2**	**10.5**	**10.9**	**13.7**	**16.5**	**7.8**	**10.7**	

† All yields are adjusted to 13.5% moisture. ‡ All varieties were treated with fungicide. § Planting date

Table 13. Comparisons of overall mean yield† and agronomic characteristics of three soft red winter wheat varieties between seed treated versus untreated with a systemic insecticide evaluated at six locations in Tennessee for two years, 2008 and 2009.‡

Brand	Variety	Avg. Yield ± Std Err. (n=12)	Moisture (n=12)	Test Weight§ (n=3)	Maturity (n=8)	Height (n=12)	Lodging (n=5)	Take All Disease (n=1)	Protein* (n=1)
		bu/a	%	lbs/bu	DAP	in.	Score	Score	%
Croplan Genetics	8302 (Cruiser)	71 ± 1	13.9	56.2	227	35	1.3	1.2	12.2
Croplan Genetics	8302	69 ± 1	13.9	55.5	227	35	1.2	1.2	12.0
Pioneer	26R22 (Cruiser)	71 ± 1	13.6	55.1	226	35	1.2	1.0	11.4
Pioneer	26R22	67 ± 1	13.8	55.1	226	35	1.4	1.0	11.7
Delta King	DK 9577 (Cruiser)	65 ± 1	13.6	55.5	225	35	1.3	1.7	12.2
Delta King	DK 9577	63 ± 1	13.6	54.9	225	34	1.3	1.3	12.4

† All yields are adjusted to 13.5% moisture. ‡ All varieties were treated with fungicide. § Official test weight of No. 2 wheat = 58 lbs/bu.

Maturity (DAP) = Days after planting

Lodging = 1 to 5 scale; where 1 = 95% of plants erect; 2.5 = ~50% of plants leaning at angle ≥ 45°; 5 = 95+% of plants leaning at an angle ≥ 45°.

Take All Disease - 1 to 5 scale; where 1 = 95% of plants non-infected; 2.5 = ~50% of plants infected; 5 = 95+% of plants infected.

Take All Disease ratings taken at the East Tennessee Research & Education Center, Knoxville, TN in 2008.

* Protein on a dry weight basis.

Table 14. Yield† comparisons of two soft red winter wheat varieties between seed treated versus untreated with a systemic insecticide evaluated at four locations in Tennessee for three years, 2006, 2008 and 2009. ‡ (Due to freeze damage, 2007 data were not used)

Brand	Variety	Avg. Yield ± Std Err. (n=12)‡	Knoxville	Spring Hill	Jackson	Milan	Avg. Yield Difference
		----------bu/a----------					
Croplan Genetics	8302 (Cruiser)	75 ± 1	76	56	93	75	0
Croplan Genetics	8302	75 ± 1	79	58	92	69	
Delta King	DK 9577 (Cruiser)	72 ± 1	80	52	89	67	+2
Delta King	DK 9577	70 ± 1	75	58	85	62	
Average -- Treated Seed (bu/a)		74	78	54	91	71	**+2**
Average -- Untreated Seed (bu/a)		72	77	58	88	65	
L.S.D.$_{.05}$ (bu/a)		**5**	**11**	**11**	**10**	**8**	
C.V. (%)		**10.1**	**10.3**	**14.4**	**8.1**	**9.0**	

† All yields are adjusted to 13.5% moisture. ‡ All varieties were treated with fungicide. § Planting date

Table 15. Comparisons of overall mean yield† and agronomic characteristics of two soft red winter wheat varieties between seed treated versus untreated with a systemic insecticide evaluated at four locations in Tennessee for three years, 2006, 2008 and 2009.‡ (Due to freeze damage, 2007 data were not used)

Brand	Variety	Avg. Yield ± Std Err. (n=12)	Moisture (n=12)	Test Weight§ (n=5)	Maturity (n=8)	Height (n=12)	Lodging (n=6)	Take All Disease (n=1)	Protein* (n=1)
		bu/a	%	lbs/bu	DAP	in.	Score	Score	%
Croplan Genetics	8302 (Cruiser)	75 ± 1	13.2	56.8	224	35	1.3	1.2	12.2
Croplan Genetics	8302	75 ± 1	13.3	56.4	224	35	1.2	1.2	12.0
Delta King	DK 9577 (Cruiser)	72 ± 1	12.9	56.5	222	35	1.2	1.7	12.2
Delta King	DK 9577	70 ± 1	12.9	56.3	222	34	1.3	1.3	12.4

† All yields are adjusted to 13.5% moisture. ‡ All varieties were treated with fungicide. § Official test weight of No. 2 wheat = 58 lbs/bu.

Maturity (DAP) = Days after planting

Lodging = 1 to 5 scale; where 1 = 95% of plants erect; 2.5 = ~50% of plants leaning at angle ≥ 45°; 5 = 95+% of plants leaning at an angle ≥ 45°.

Take All Disease - 1 to 5 scale; where 1 = 95% of plants non-infected; 2.5 = ~50% of plants infected; 5 = 95+% of plants infected.

Take All Disease ratings taken at the East Tennessee Research & Education Center, Knoxville, TN in 2008.

* Protein on a dry weight basis.

Oats

Results

A fall-seeded oat test was conducted at the East TN (Knoxville) and Middle TN (Spring Hill) Research and Education Centers (REC) during 2008-2009 on 24 winter oat varieties / breeding lines. Due to severe winter injury of all varieties, the oat test at Middle TN REC was not harvested.

The East TN REC (Knoxville) oat test was seeded on October 21, 2008. The average yield of the 24 oat entries was 106 bu/a, ranging from 52 to 132 bu/a. Test weights ranged from 28.9 to 36.1 lbs/bu. The official test weight for oats is 36 lbs/bu. A substantial amount of cold damage occurred on two of the breeding lines from Florida (FL99212-D6 and FLQR1805-J12) at Knoxville. Other experimental details are given in the footnotes of Table 16. Fourteen of the 24 varieties have been evaluated over the two-year period 2008 & 2009.

Table 16. Mean yields and agronomic characteristics of 24 fall seeded oat lines evaluated at Knoxville, TN in 2009.

Origin	Line	Avg. Yield ± Std Err. (n=1)	Moisture at Harvest	Test Weight §	Winter Kill	Maturity	Plant Height	Lodging
		bu/acre	%	lb/bu	%	DAP	inches	1-5 score
NC	NC03-2421	132 ± 9	12.6	36.7	5	238.7	41	2.9
TX	TX05CS556	132 ± 9	11.6	33.3	5	245.2	41	3.4
FL	FL0210-J1	129 ± 9	12.9	35.2	16	245.0	45	3.7
LA	FL99153FBS-45-1-B-S-B-S1-B-S1	128 ± 9	12.5	37.2	4	239.2	44	2.9
TX	TX02U7325	127 ± 9	11.4	31.6	6	236.3	45	4.0
NC	NC03-2567v	126 ± 9	12.3	37.0	4	240.1	46	4.6
LA	LA03046SBS7-B-S1	125 ± 9	12.0	33.3	6	240.1	38	2.9
LA	LA97006GSB-59-2-4-SBS1	123 ± 9	12.0	32.8	7	241.1	41	3.3
TX	TX05CS542	123 ± 9	11.8	32.1	8	241.2	45	3.8
NC	Rodgers	123 ± 9	11.8	35.3	9	237.4	46	4.4
FL	FL0115-J2	118 ± 9	12.3	34.7	15	246.3	46	2.7
FL	FL99212-D6	114 ± 9	12.6	33.5	22	244.4	43	3.6
NC	NC01-3497	112 ± 9	12.3	35.6	5	237.5	42	4.3
AR	Harrison	110 ± 9	11.9	36.6	10	239.7	48	3.2
FL	Horizon 201	107 ± 9	12.3	31.8	15	244.6	47	3.4
TX	TX05CS347-1	104 ± 9	11.9	35.1	8	244.9	45	3.9
TX	TX02U7682	91 ± 9	11.4	33.5	14	240.2	46	4.5
TX	TX02U7490	89 ± 9	11.6	31.7	13	238.6	42	3.8
LA	FL03167BSBS-3	86 ± 9	11.6	32.5	10	243.2	39	4.6
LA	LA04004SBSB-61-B-S1	79 ± 9	12.1	36.0	6	240.2	42	4.6
LA	LA02035-J1	79 ± 9	13.0	35.5	14	245.2	45	4.8
TX	TAMO 406	67 ± 9	11.4	33.5	15	235.7	46	5.0
NC	NC05-5460y	64 ± 9	12.0	35.9	11	236.0	42	4.6
FL	FLQR1805-J12	52 ± 9	12.5	32.4	28	243.8	42	4.8
	Average (bu/a)	**106**	**12.1**	**34.3**	**11**	**241**	**44**	**3.9**
	L.S.D.$_{.05}$ (bu/a)	**24**						
	C.V. (%)	**13.6**						

† All yields are adjusted to 14% moisture. § Official test weight of Oats = 36 lbs/bu. Maturity (DAP) = Days after planting

Planted 10/21/08 Seeding rate of 25 seed per square foot

463 lbs/ac 10-10-10 applied on 10/13/08, 180 lbs/ac (34-0-0) applied 2/25/09

Harmony Extra XP (6 oz/ac) applied on 3/6/09

Buctril (1.5 pints/ac) applied on 3/6/09

Winter kill notes taken on 1/29/09 - percentage of stand killed by frost.

Lodging = 1 to 5 scale; where 1 = 95% of plants erect; 2.5 = ~50% of plants leaning at angle ≥ 45°; 5 = 95+% of plants leaning at an angle ≥ 45°.

Harvested 6/26/09

Table 17. Mean yields and agronomic characteristics of 14 fall seeded oat lines evaluated at Knoxville, TN for two years, 2008 and 2009.

Origin	Line	Avg. Yield ± Std Err. (n=2)	Moisture at Harvest	Test Weight §	Winter Kill	Maturity	Plant Height	Lodging
		bu/acre	%	lb/bu	%	DAP	inches	1-5 score
NC	NC03-2421	110 ± 5	12.7	35.9	7	238.0	41	2.1
TX	TX02U7325	100 ± 5	11.5	32.5	7	236.7	44	2.7
TX	TX05CS542	98 ± 5	13.0	31.7	8	242.0	44	2.4
NC	Rodgers	97 ± 5	13.2	33.6	7	237.7	45	2.7
LA	LA03046SBS7-B-S1	97 ± 5	12.2	34.0	7	239.3	38	2.0
NC	NC01-3497	95 ± 5	13.0	34.9	7	237.0	40	2.6
LA	LA97006GSB-59-2-4-SBS1	94 ± 5	12.2	34.0	8	240.7	40	2.1
AR	Harrison	93 ± 5	11.6	36.5	8	239.3	46	2.2
LA	FL99153FBS-45-1-B-S-B-S1-B-S1	91 ± 5	13.6	35.8	5	239.0	43	1.9
FL	FL99212-D6	89 ± 5	13.2	33.4	13	244.7	41	2.3
FL	FL0115-J2	85 ± 5	13.8	32.6	13	246.0	44	1.9
TX	TX05CS347-1	85 ± 5	12.7	35.4	8	245.7	43	2.5
TX	TX02U7490	82 ± 5	12.3	31.8	11	239.0	41	2.3
TX	TX02U7682	80 ± 5	12.3	34.1	15	240.7	43	2.7
	Average (bu/a)	**92**	**12.7**	**34.0**	**9**	**240**	**42**	**2.3**
	L.S.D.$_{.05}$ (bu/a)	**17**						
	C.V. (%)	**13.7**						

† All yields are adjusted to 14% moisture.

§ Official test weight of Oats = 36 lbs/bu.

Maturity (DAP) = Days after planting

Lodging = 1 to 5 scale; where 1 = 95% of plants erect; 2.5 = ~50% of plants leaning at angle ≥ 45°; 5 = 95+% of plants leaning at an angle ≥ 45°.

Table 18. Contact information for wheat and barley seed companies evaluated in yield tests in Tennessee during 2008-9

Company	Contact	Phone	Email	Web site	Address
AgriPro COKER (Syngenta)	June Hancock	870-483-7691	june.hancock@syngenta.com	www.agriprowheat.com	778 CR 680, Bay, AR 72411
Armor, Delta King (Cullum Seeds)	Jeff Armstrong Lane Dill	870-328-7222	jeffarmstrong@cullumseeds.com lanedill@cullumseeds.com	www.armorbeans.com www.cullumseeds.com	P.O. Box 178, Fisher, AR 72429
Dixie (Cache River Valley Seed)	Andy Morris Jim Bigger James Crawford	901-674-0768 870-477-5427 870-974-2310	crvseed@crvseed.com jimb@crvseed.com james@crvseed.com	www.crvseed.com	300 Lost Acne Way, Arlington, TN 38002 P.O. Box 10, Cash, AR 72421 Highway 226 East, Cash, AR 72421
Croplan Genetics (available at TN Farmers Co-Op and Agreliance locations)	Jesse Witt Keith Saum Darrin Holder Jim Payne Chris Morris	256-221-5932 731-610-7006 270-207-0190 901-652-0903 615-218-7963	JBWitt@landolakes.com jpayne@ourcoop.com	www.croplangenetics.com www.ourcoop.com	DSM Middle & East TN DSM West TN Agronomist West TN East & Middle TN
Delta Grow Seed	Lee Hughes	800-530-7933	leehughes19@hotmail.com	www.deltagrow.com	P O Box 219, England, AR 72046
Dyna-Gro (Crop Production Services)	Steve Johnson Mick Schonauer	731-885-1212 937-644-9467	steve.johnson@cpsagu.com michael.schonauer@cpsagu.com	www.dynagroseed.com	530 N. Fifth St/ P O Box 40, Union City, TN 38281
University of Georgia	Jerry Johnson	770-228-7345	jjohnson@griffin.uga.edu		University of Georgia CAES - Griffin Campus Griffin, GA 30223
Michigan Crop Improvement Association	C.J. Palmer	517-332-3546	palmerj@michcrop.com		Michigan Crop Improvement Association P.O. Box 21008 Lansing, MI 48909
University of Missouri	Mary Ann Quade Anne McKendry	573-884-7333 573-882-7707	quadem@missouri.edu mckendrya@missouri.edu		University of MO Foundation Seed 3600 New Haven Rd Columbia, MO 65201
Pioneer Hi-Bred Int.	Michael Hughes	800-331-2475	michael.hughes@pioneer.com	www.pioneer.com	700 Boulevard South, Suite 302, Huntsville, AL 35802
Progeny	Corey Dildine	870-208-6032	corey@progenyag.com	www.progenyag.com	1529 Hwy 193, Wynne, AR 72396
University of Tennessee	Dennis West	865-974-8826	dwest3@utk.edu		3421 Joe Johnson Dr, Knoxville, TN 37996-4561
Unisouth Genetics (USG)	Stacy Burwick	615-242-3397	sburwick@usgseed.com	www.usgseed.com	2640-C Nolensville Rd., Nashville, TN 37211
Virginia Tech	David Whitt	804-746-4884	dwhitt@vt.edu	www.virginiacrop.org	Virginia Crop Improvement Assoc. 9142 Atlee Station Rd Mechanicsville, VA 23116
Warren Seed	Lanny Warren	731-234-2921	lanny.warren@charter.net		P.O. Box 10, Woodland Mills, TN 38271

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